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10/813,844	03/31/2004	Sridhar Varadarajan	4544-043813	6067

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Richard L. Byrne
700 Koppers Building
436 Seventh Avenue
Pittsburgh, PA 15219-1818

EXAMINER

MANSFIELD, THOMAS L

ART UNIT	PAPER NUMBER
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3624

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/813,844	Applicant(s) VARADARAJAN ET AL.	
	Examiner THOMAS MANSFIELD	Art Unit 3624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Final Office action is in reply to the applicant amendment filed on 29 July 2009.
2. Claim 1 has been amended.
3. Claims 2-13 have been cancelled.
4. Claim 1 is currently pending and has been examined.

Response to Amendment

5. The Objection to the Specification in the previous office action **is withdrawn** in response to Applicant's amendment to the abstract.
6. In the previous office action, Claims 1-13 were rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility. Applicants' amendment to provide structure to support the system of Claim 1 is insufficient and the rejection **is maintained** and explained in detail in the below rejection. The rejection **is moot** for cancelled claims 2-13.
7. In the previous office action, Claims 2-13 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Since the Applicants have cancelled Claims 2-13, the rejection **is moot**.

Response to Arguments

8. Applicant's arguments filed 29 July 2009 have been fully considered but they are not persuasive.
9. Applicant submits that McCall et al. (McCall) (U.S. 7,191,176) does not teach or suggest in amended Claim 1: (1) *automatic overall skill assessment* [see Remarks page 8, fourth paragraph], (2) *partial matching at the attribute level* [see Remarks page 8, last paragraph through page 9, sentence 6], (3) *multi-step iterative optimization* [see Remarks page 9, first paragraph], (4) *convey hierarchy based matching* [see Remarks page 9, last paragraph], and (5) *multi-step iterative optimization to achieve near optimal assignment of resources* [see Remarks page 9, last paragraph].

10. With regard to argument (1), the Examiner respectfully disagrees. This specific limitation is not specifically recited in Claim 1 and there is no specific recitation of *automatic*. However, if the Applicant is referring to the limitation, *to assess a plurality of possessed skills associated with a knowledge worker*, McCall teaches “the Category A enhancement object is an assessment of the thinking styles of the job seeker, professional skills assessment object” (see at least column 6, lines 47-65).
11. With regard to argument (2), the Examiner respectfully disagrees. This specific limitation is not specifically recited in Claim 1 and there is no specific recitation of *partial*. However, if the Applicant is referring to the limitation, *said extent of match is a semi-exact match if said required skill and said required period match only approximately with said available skill or said available period*, McCall teaches, “automatically matching the Category A data file to the Category B data file at least partially on the basis of the contents of the respective Category A and Category B enhancement objects” (see at least column 6, lines 36-65).
12. With regard to argument (3), the Examiner respectfully disagrees. This specific limitation is not specifically recited in Claim 1 and there is no specific recitation of *iterative optimization*. However, if the Applicant is referring to the limitation, *to form a resource matrix*, McCall teaches, “The job-seeker interface **7000** includes many types of standardization mechanisms which prompt users to enter data into their respective **405** in an optimal format for comparison” (see at least column 38, lines 39-64).
13. With regard to argument (4), the Examiner respectfully disagrees. This specific limitation is not specifically recited in Claim 1. However, if the Applicant is referring to the limitation, *and said plurality of skills is related with each other through a skill hierarchy*, McCall teaches, “reciprocally publishing and matching data files, determining whether the first marketplace identifier matches the second marketplace identifier, and the step of matching the Category A data file and the Category B data file occurs only if the marketplace identifiers do correspond, [first, second, third, fourth] marketspaces” (see at least column 12, line 1 through column 13, line 39).

14. With regard to argument (5), the Examiner respectfully disagrees. This specific limitation is not specifically recited in Claim 1 and there is no specific recitation of *multi-step iterative optimization to achieve near optimal assignment of resources*. However, if the Applicant is referring to the limitation, *a value between 0 and 1 with values close to 1 indicating closeness of said variation of said non-overlapping skill to said particular non-overlapping skill with respect to said skill hierarchy*, McCall teaches, "The fit value, which is preferably a real number from 0 to 1, may be derived in a number of ways...regardless of how the fit value is set...the intelligent agent 415 next multiplies the fit value for the current match by the weight given that match factor by the owner to calculate a match factor score...a traditional "least squares" fit may be used to calculate a fit value for a match factor..." (see at least column 55, line 20 through column 58, line 49).

Claim Rejections - 35 USC § 101

15. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

16. Claim 1 is rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility.

Claim 1 recites a system for skill management of a plurality of knowledge workers in a software industry. Although Claim 1 has been amended to recite, *"a system comprising: a computer processor having instructions stored thereon, which when executed by a processor of the computer, cause the processor to"*, there is no recitation of a computer, much less *a computer processor having instructions stored thereon, which when executed by a processor of the computer* within the specification of the instant application. This amendment invokes a rejection under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement and is explained in detail in the below rejection. As a result, and previously stated in the previous office action, there is no proper structure to support the results of the skill assessment limitations recited in Claim 1.

Claim Rejections - 35 USC § 112

17. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

18. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Amended Claim 1 recites *a computer processor having instructions stored thereon, which when executed by a processor of the computer, cause the processor to...* There is no recitation of a computer, much less *a computer processor having instructions stored thereon, which when executed by a processor of the computer* within the specification of the instant application. For examination purposes, the Examiner will not acknowledge this limitation. Correction and/or clarification is required.

19. The following is a quotation of the second paragraph of 35 U.S.C. §112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

20. Claim 1 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites the limitations, “*approximate match*”, “*only approximately*”, “*approximate matching*”, and “*values close to*”. These limitations are indefinite because there is no specific range or specific value for one of ordinary skill in the art to measure or associate. For examination purposes, the Examiner will interpret these limitations in their broadest and reasonable interpretation. Clarification is required.

Claim Rejections - 35 USC § 102

21. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

22. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by McCall et al. (McCall) (U.S. 7,191,176).

With regard to Claim 1, McCall teaches *a system for skill management* (reciprocal data file publishing and matching system **20**) *of knowledge workers* (job-seekers) *in a software industry* (network or Internet-based marketplace) *based on continuous tracking of possessed skills associated with knowledge workers and identifying a knowledge worker to meet project requirements* (see at least column 5, line 38 through column 7, line 65 and column 14, lines 41-65), *wherein an identified knowledge worker* (job-seeker) *of said plurality of knowledge workers* (master list of Category A data files **405**), *a possessed skill is a part of a plurality of skills associated with said system* (Category B), *and said plurality of skills is related with each other through a skill hierarchy* (enhancement objects), *said system comprising* (see at least column 5, line 38 through column 7, line 65 and column 14, lines 41-65): *assess a plurality of possessed skills associated with a knowledge worker based on a plurality of rules* (professional skills assessment object), *a plurality of qualification impact functions* (work preferences assessment object), *and a plurality of experience impact functions* (past experiences timeline object) (see at least column 5, line 38 through column 7, line 65 and column 14, lines 41-65); *evolve said plurality of possessed skills based on contributions in projects participated by said knowledge worker, and appraisals associated with said knowledge worker during a plurality of training sessions* (special training and accreditations, to create or update the respective enhancement objects 430) (see at least column 23, lines 1-16, column 40, line 1 through column 41, line 10); *match between a knowledge worker and a project requirement of a plurality of project requirements* (plurality of match factors), *wherein the extent of the match is an exact match if a required skill of said project requirement and a required period of requirement of said skill based on said project requirement matches exactly with an available skill of said knowledge worker and an available period of said knowledge*

*worker, wherein said exact matching is based on said required skill, said available skill, said required period ("must" indicator, "must" criteria), and said available period, said extent of match is a semi-exact match (how closely it matches) if said required skill or said required period match only approximately with said available skill or said available period, wherein said approximate matching of said required skill and said available skill is based on a path length between said required skill and said available skill based on said skill hierarchy or a degree of overlap (amount of overlap) between said required period and said available period, and said extent of match is an approximate match if said required skill and said required period match only approximately with said available skill and said available period, wherein said approximate matching of said required skill and said available skill is based on a path length (fit value, bitmask) between said required skill and said available skill with respect to said skill hierarchy and a degree of overlap between said required period and said available period (The fit value, which is preferably a real number from 0 to 1, may be derived in a number of ways...regardless of how the fit value is set...the intelligent agent **415** next multiplies the fit value for the current match by the weight given that match factor by the owner to calculate a match factor score...a traditional "least squares" fit may be used to calculate a fit value for a match factor...) (see at least column 27, line 21 through column 29, line 55, column 55, line 20 through column 58, line 49); obtain a plurality of project specific requirements, wherein each of said plurality of project specific requirements is a part of a plurality of project requirements of said plurality of project requirements (responsibilities and duties of a particular job) (see at least column 25, lines 46-55); divide said plurality of project specific, skills into a plurality of non-overlapping skills, wherein a period 1 associated with a skill 1 of a plurality of non-overlapping skills of said plurality of non-overlapping skills and a period 2, associated with a skill 2 said plurality of non-overlapping skills are such that said period 1 and said period 2 do not overlap (degree of overlap) (column 55, line 20 through column 58, line 49); determine a total number of distinct skills based on said plurality of non-overlapping skill (see at least column 27, line 21 through column 29, line 55, column 55, line 20 through column 58, line 49); obtain a plurality of multiplicity factors associated with said plurality of non-overlapping skills, wherein said each of said plurality of multiplicity factors denote the number of resources required of a non-overlapping. skill of said plurality of non-overlapping skills based on said plurality of project specific requirements (the intelligent agent **415** next multiplies the fit value for the current match by the weight given that match factor by the owner to calculate a match factor score) (see at least column 55, line 20 through column 58, line 49); obtain a plurality of project periods (predetermined period of time) associated with said plurality of non-overlapping skills based on said plurality of project specific*

requirements (see at least column 28, lines 13-63); form a skill matrix, wherein said skill matrix comprises a pre-defined number of variations of each of said plurality of non-overlapping skills and is based on said plurality of multiplicity factors with each element of said skill matrix being associated with a variation of a non-overlapping skill and a particular non-overlapping skill, and is a value between 0 and 1 with values close to 1 indicating closeness of said variation of said non-overlapping skill to said particular non-overlapping skill with respect to said skill hierarchy (The job-seeker interface 7000 includes many types of standardization mechanisms which prompt users to enter data into their respective eres 405 in an optimal format for comparison, The fit value, which is preferably a real number from 0 to 1, may be derived in a number of ways...regardless of how the fit value is set...the intelligent agent 415 next multiplies the fit value for the current match by the weight given that match factor by the owner to calculate a match factor score...a traditional "least squares" fit may be used to calculate a fit value for a match factor...) (see at least column 38, lines 39-64 and column 55, line 20 through column 58, line 49); form a resource matrix (table of cells, fuzzy-logic modeling system), wherein said resource matrix is based on said plurality of non-overlapping skills and said plurality of multiplicity factors with each element of said resource matrix being associated with a knowledge worker of said plurality of knowledge workers and a non-overlapping skill of said plurality of non-overlapping skills, and is a value between 0 and 1 with values close to 1 indicating the availability of said knowledge worker based on a plurality of possessed skills of said plurality of possessed skills associated with said knowledge worker and said plurality of project periods (The job-seeker interface 7000 includes many types of standardization mechanisms which prompt users to enter data into their respective eres 405 in an optimal format for comparison, The fit value, which is preferably a real number from 0 to 1, may be derived in a number of ways...regardless of how the fit value is set...the intelligent agent 415 next multiplies the fit value for the current match by the weight given that match factor by the owner to calculate a match factor score...a traditional "least squares" fit may be used to calculate a fit value for a match factor...) (see at least column 38, lines 39-64 and column 55, line 20 through column 58, line 49); compute a plurality of resource skill variation values (derivation of fit values) derives a fit value based on how similar the actual value is to the desired value, wherein a resource skill variation value of a plurality of resource skill variation values of said plurality of resource skill variation values is a product of a resource element of said resource matrix and a skill element of said skill matrix, wherein said resource element is associated with a knowledge worker of said plurality of knowledge workers and a non-overlapping skill of said plurality of non-overlapping skills, said skill element is associated with said non-overlapping skill and a

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variation of said non-overlapping skill, and said resource skill variation value is based on said extent of match between said knowledge and a project requirement of said plurality of project specific requirements associated with said non-overlapping skill (see at least column 55, line 20 through column 58, line 49); maximize a summation of product of a resource skill variation assignment and a resource skill variation value, wherein said resource skill variation assignment is a part of a plurality of resource skill variation assignments and is associated with a knowledge worker of said plurality of knowledge workers with a variation of a non-overlapping skill of said plurality of non-overlapping skills with a value of 1 indicating the assignment of said resource and a value of 0 indicating the non-assignment of said resource, said resource skill variation value is a part of a plurality of resource skill variation values of a plurality of resource skill variation values of said plurality of resource, skill variation values associated with said knowledge worker, said non-overlapping skill and said variation of said non-overlapping skill, the sum of said plurality of resource skill variation assignments is said total number of distinct skills, and the sum of said plurality of resource skill variation assignments over said plurality of knowledge workers and said plurality of non-overlapping skills is 1 (see at least column 55, line 20 through column 58, line 49); form a plurality of identified knowledge workers of said plurality of right knowledge workers based on said plurality of said resource skill variation assignments and said plurality of project specific requirements (determining a market space) (see at least column 12, line 55 through column 13, line 67 and column 58, line 57 through column 59, line 62).

Conclusion

- 23. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

- 24.** The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Thomas (U.S. Pub. No. 2002/0055870) discloses a system for human capital management.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS MANSFIELD whose telephone number is (571)270-1904. The examiner can normally be reached on Monday-Thursday 8:30 am-6 pm, alt. Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bradley Bayat can be reached on 571-272-6704. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. M./
Examiner, Art Unit 3624

4 December 2009
Thomas Mansfield

/Bradley B Bayat/
Supervisory Patent Examiner, Art Unit 3624